



WISCONSIN WELLHEAD PROTECTION NEWS

Spring 2001



CONGRATULATIONS!

Congratulations are in order for a number of communities who are or have been involved in wellhead protection (WHP) planning to protect their water supply wells. Baldwin, Cambria, Country Estates Sanitary District, Darien, Gilman, Medford, Merrillan, Mosinee, New Richmond, Rice Lake, Shell Lake and Wabeno Sanitary District have worked or are working with Department of Natural Resources (DNR) or Wisconsin Rural Water Association staff on wellhead protection plans, ordinances or both. You are commended for being proactive in protecting your water supply.

Communities which have developed wellhead protection plans for new wells since the last newsletter include Fitchburg, Hayward and the Rome Water Utility in Nekoosa. Hats off to these communities as well for recognizing the importance of wellhead protection. Keep up the good work!

If you would like assistance from the Department in getting started, three DNR staff are available. Dave Johnson (608-261-6421 or johnsdm@dnr.state.wi.us) works with northeast and south central Wisconsin communities. Dave

Lindorff works with communities in the southeast part of the state. Randell Clark (608-267-7895 or clarkr@dnr.state.wi.us) works with communities in west, central and northern Wisconsin. All three have the same address and fax number (see below).

This issue of the newsletter contains a reminder to celebrate Drinking Water Week, a report on a recent workshop for teachers to learn about using the groundwater model, the availability of a WHP PowerPoint presentation, resources for delineating wellhead protection areas, an update on Wisconsin's source water assessment activities and a WHP success story.

If you have ideas regarding topics or questions that could be addressed in future newsletters, contact me by phone (877-268-9355 toll free), by fax (608-267-7650), by email (lindod@dnr.state.wi.us) or regular mail (Wisconsin DNR, P. O. Box 7921, Madison, WI 53707-7921).

I hope you find this issue informative. Have a wonderful Spring!

Dave Lindorff, Editor

CELEBRATE DRINKING WATER WEEK!

Drinking Water Week is coming May 6-12. This is an excellent opportunity to celebrate the abundant drinking water resources that we enjoy in Wisconsin. I encourage you to use this as an opportunity to educate the public about your water supply system. Many may not know where their water comes from and the steps your community has taken to protect its water supply. Here's a chance to toot your own horn! Please let me know of your efforts.

The American Water Works Association has a variety of Drinking Water Week resources available at www.awwa.org/dww/. Included is general background information on Drinking Water Week

plus ideas for ways to involve children and your community in Drinking Water Week celebrations.

If you're looking for information to share with the public, the DNR has a number of general publications which are available free of charge. Among them are "Groundwater: Wisconsin's Buried Treasure"; a poster, "Land Use and the Water Cycle"; and a brochure, "Better Homes and Groundwater." Contact Dave Lindorff if you'd like copies of any of these publications.

GROUNDWATER TEACHER TRAINING A SUCCESS

In January, 62 teachers from twenty-five Wisconsin school districts received intensive training about the state's groundwater supplies and took home a free groundwater flow model to help their students learn about this precious natural resource and how to protect it.

Teachers, who were chosen through a screening process to attend the training, came from Antigo, Appleton, Birnamwood, Florence, Fond du Lac, Gilman, Hortonville, Kohler, Madison, Mayville, Minocqua, New London, Oshkosh, Phillips, Racine, Reedsburg, Rhinelander, Richland Center, Three Lakes, Tomahawk, Waunakee, Wausau, West Bend, West Salem and Wittenberg.

Staff from the Central Wisconsin Groundwater Center at UW-Stevens Point and the Wisconsin Geological and Natural History Survey provided the training to teachers in separate workshops January 17, 18 and 23 at Stevens Point, Tomahawk and Wisconsin Dells, respectively. The groundwater models, assembled by UW-Stevens Point College of Natural Resources students, cost \$350. The DNR paid for the models with a portion of wellhead protection funds from the U. S. Environmental Protection Agency.

In addition to the schools which now have groundwater models, a list has been developed of locations from which a groundwater model can be borrowed. Contact Dave Lindorff for a copy of the list or check it out at:
www.uwsp.edu/water/portage/teach/borrow.htm

WELLHEAD PROTECTION SLIDES

In the fall newsletter, I noted that work has been completed on a set of PowerPoint slides describing Wisconsin's WHP program, the steps needed to develop a wellhead protection plan and resources available to assist communities. Since then, a web presentation has been developed from the slides and

is available for viewing on the DNR's WHP website accompanied by explanatory text. To see the slide show, go to www.dnr.state.wi.us/org/water/dwg/gw/WHP-SS.htm. The slide show is available for downloading and use with PowerPoint or a free PowerPoint viewer. Dave Lindorff can also send you an email containing the PowerPoint presentation or lend you a copy of the slides.

HOW TO DELINEATE YOUR WELLHEAD PROTECTION AREA

If you're looking for information on methods available to delineate a wellhead protection area for your community, let me point you to three sources that can help. In 1993, the Department published "Determining Wellhead Protection Area Boundaries – An Introduction." This provides an overview of the range of methods available for delineating a wellhead protection area. Contact Dave Lindorff to get a copy.

Just last year the Department completed "A Template for Preparing Wellhead Protection Plans for Municipal Wells." This publication describes how to complete each of the nine steps for a wellhead protection plan for a new well as outlined in administrative code NR 811.16 and includes example delineation calculations. Contact Dave Lindorff to get a copy. It's also available in an Adobe Acrobat (pdf) format to be downloaded from the Department's wellhead protection website: www.dnr.state.wi.us/org/water/dwg/gw/whp.htm

The USEPA has a website which identifies publications available describing delineation methods. You can visit it at www.epa.gov/safewater/tadnp.html.

SOURCE WATER ASSESSMENT UPDATE

Progress continues on a number of fronts to address the four components of the source water assessment program (SWAP) as required by the 1996 Safe Drinking Water Act Amendments. These components must be completed for all public systems by May 2003.

Delineate Source Water Areas

Regional hydrogeologic studies to delineate source water areas in Sauk, Eau Claire, Rock, Pierce, and St. Croix Counties and the Central Sands Area are scheduled to be completed this summer. These source water areas, as well as those delineated in previous studies in Dane County and the Lower Fox River Valley, will be used in this year's vulnerability assessments for municipal systems. Delineations for

systems in La Crosse, Fond du Lac (to start July 2001) and the SEWRPC counties will not be completed in time for this year's vulnerability assessments but will be used for the SWAP assessments. Other public systems will have their source water areas delineated by calculated or fixed radius methods.

We are conducting a pilot project to use hydrogeologic mapping to delineate source water areas in karst areas of Monroe, Columbia, Dodge and Jefferson Counties. The results of this project will be evaluated for practical usefulness before going further with this idea.

Locate Potential Contaminant Sources

DNR staff are collecting locations of leaking underground storage tanks, RCRA facilities, Superfund sites, large quantity hazardous waste generators, landfills and confined animal feedlot operations. This data will be combined with that generated by this year's vulnerability assessments in determining source water susceptibility as well as future vulnerability assessment evaluations.

Determine Susceptibility

The DNR is developing a computer application that will automate large portions of SWAP and vulnerability assessments. The application will access information in the Drinking Water System.

We are currently conducting a pilot study to compare several groundwater age-dating methods. Age-dating will be a component of the susceptibility determination process for groundwater systems.

Complete and publicize assessments

We are exploring ways of presenting the results of the finished assessments on the Internet.

Contact Jeff Helmuth, Source Water Protection Team Leader, at 608-266-5234 or helmuj@dnr.state.wi.us if you have questions about Wisconsin's SWAP.

LOCAL COOPERATION TO PROTECT GROUNDWATER

In the last Newsletter, I described how the City of Waupaca responded to threats to their wells by working with farmers in the recharge area to reduce the amount of fertilizer applied to the land. The reduction in fertilizer meant less nitrate was applied to the land that might migrate toward the city's wells. The city also installed monitoring wells to keep an eye on groundwater quality near their wells.

Chippewa Falls experienced a similar problem with increased nitrates in their water supply in the mid-80s. Chippewa Falls chose some different options for dealing with the contamination than Waupaca. However, both communities involved other jurisdictions in the decision making process and worked to keep all the interested parties informed.

Chippewa Falls initially also installed monitoring wells in an effort to characterize the aquifer and determine the source. After a number of years of rising nitrate levels, the city hired a consultant to determine the recharge area for its wells and try to pinpoint the source of the nitrate contamination. It was determined that the nitrates were most likely coming from a variety of nonpoint sources outside the city limits. Not only wasn't there one particular source that could be identified, these were sources that the city had no jurisdiction over.

Eventually, nitrate levels approached a point where blending could no longer reliably provide water below the Drinking Water Standard of 10 parts per million. Chippewa Falls installed a nitrate removal plant in 1998 to make sure its residents had a safe supply of water. It also began discussions with the local townships and the county to address this issue.

A technical advisory committee was formed led by the Land Conservation Department. It included representatives from the city, the townships, the county, the DNR, the Department of Industry, Labor and Human Relations, UW-Eau Claire, and the West Central Regional Planning Commission. The committee developed a county-wide plan and ordinance as well as a model wellhead protection plan and ordinance that could be used by any municipality in the county. The plans and ordinances were adopted by Chippewa Falls and Chippewa County. The county ordinance covers those areas outside the municipal boundaries of a community which are still within the wellhead protection area for that community. As a result, Chippewa Falls has the same protection for their wellhead protection area regardless of whether it is in the city or not.

Education has also been an important part of the effort to protect groundwater in Chippewa County. Public meetings were held to solicit comments on the draft documents as they were developed. For the

past 6 years, Chippewa Falls has had a Groundwater Guardian program to educate the public about the need to protect groundwater, especially in the wellhead protection area. Through newsletters and other efforts, the Groundwater Guardian committee had educated the public on the importance of making wise land use choices. People need to understand that what we do on the land can affect not only their water supply but that of others as well.

Chippewa Falls recognizes that once an ordinance has been adopted, the wellhead protection process isn't complete. The ordinance must be enforced and the wellhead protection plan needs to be reevaluated periodically to make sure it still meets the needs of the community. In 2000, Chippewa Falls amended its ordinance to improve the controls within the wellhead protection area. Chippewa Falls is to be commended for aggressively addressing its nitrate contamination problem and working with the county and other local jurisdictions to protect its water supply from further contamination.

The Wisconsin Wellhead Protection Newsletter is a publication of the Wisconsin Department of Natural Resources' Bureau of Drinking Water and Groundwater. Its purpose is to provide current information on wellhead protection topics. It is published in the spring and fall and as needed.

Comments, questions, suggestions and articles are welcome and can be sent to: David Lindorff, Editor, Wisconsin Wellhead Protection Newsletter Department of Natural Resources, P. O. Box 7921, Madison, WI 53707-7921
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PUBL DG-054 (4/01)

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